

The opinion in support of the decision being entered today was **not** written for publication and is **not** precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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**Ex parte** GERALD ADAMS, EZAT KHOSHDEL, ANTHONY MORETTA, YVONNE  
CHRISTINE PLANT, and EUAN STUART REID

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Appeal No. 2003-0878  
Application No. 09/575,903

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ON BRIEF

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Before ADAMS, PAWLIKOWSKI and GREEN, **Administrative Patent  
Judges.**

PAWLIKOWSKI, **Administrative Patent Judge.**

**DECISION ON APPEAL**

This is an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1, and 3-6.

Claim 1 is representative of the subject matter on appeal and is set forth below:

1. A process for making a polysiloxane block copolymer which is built up from units of the formula [A][B], in which A is a polymeric block built up from radically polymerizable monomer, and B is a

polysiloxane block, the process comprising the steps of:

(a) forming a polysiloxane macroinitiator by a nucleophilic substitution reaction between (i) a polysiloxane which is end capped with at least one group capable of nucleophilic attack via its O, N, or S atom and (ii) a radical initiator comprising at least one -C(O)X group, in which X is a leaving group capable of substitution by the nucleophilic O, N or S atom of polysiloxane (i)<sup>[1]</sup> and at least one organic halide group capable of generating a radical in the presence of a transition metal catalyst; followed by:

(b) reacting the organic halide groups of the polysiloxane macroinitiator so obtained with radically polymerizable monomers in the presence of a catalytic amount of a Cu(I) salt or other transitional metal species to form a polysiloxane block copolymer.

3. A polysiloxane block copolymer obtainable by the process of claim 1.

5. A cosmetic and personal care composition comprising the polysiloxane block copolymer of claim 3.

The examiner relies upon the following references as evidence of unpatentability:

Kumar et al. (Kumar)	EP 0 413 550 A2	Feb. 20, 1991
Tsubakihara et al. (Tsubakihara)	5,840,291	Nov. 24, 1998
Matyjaszewski et al. (Matyjaszewski)	WO 98/01480	Jan. 15, 1998

Claims 1, 3, and 4 stand rejected under 35 U.S.C. § 103 as being unpatentability over Kumar in view of Matyjaszewski.

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<sup>1</sup> We notice the use of "(i)", for a second time, in this claim. We are uncertain whether the use of "(i)" for a second time in this claim is correct and was intended. Upon further prosecution we encourage both the examiner and appellants to work together to clarify this issue.

Claims 5 and 6 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kumar in view of Matyjaszewski and Tsubakihara.

On page 11 of the Brief, appellants state that claims 1, 3 and 4 stand or fall together, and that claims 5 and 6 stand or fall together. However, at the bottom of page 14 and at the top of page 15 of the Brief, appellants rely upon the same arguments for each of these sets of claims. We believe this is because the subject matter of claims 5 and 6 is directed to a "cosmetic and personal care composition" according to the polysiloxane block copolymer made by the process of claim 1. Nevertheless, based on appellants' claim grouping, we select claims 1 and 5 as representative of the claims on appeal. Accordingly, claims 3 and 4 will stand or fall together with claim 1, and claim 6 will stand or fall together with claim 5. 37 CFR § 1.192(c)(7)(2002).

#### **OPINION**

We have carefully reviewed appellants' Brief and the examiner's Answer. This review has led us to conclude that the examiner's 35 U.S.C. § 103 rejection is well founded for the reasons set forth below.

I. The Rejection of Claim 1

Appellants do not dispute that Kumar uses appellants' claimed polysiloxane macroinitiator and radically polymerizable monomers to produce block copolymers. See the bottom of page 12 of the Brief and the top of page 13 of the Brief.

Hence, the only issue before us is whether it would have been obvious to have substituted the use of ultraviolet radiation set forth in Kumar with the use of a catalytic amount of a CuI salt (or other transitional metal species) when reacting the organic halide groups of the polysiloxane macroinitiator with radically polymerizable monomers, to form the claimed polysiloxane block copolymer.

The examiner's basic position is that it would have been obvious to have substituted the ultraviolet energy source of Kumar with the metal transition catalyst of Matyjaszewski to induce radical polymerization as taught by Matyjaszewski. Paper No. 7, page 3.

In response, on page 14 of the Brief, appellants argue the following:

"Matyjaszewski does not conclude that there is a need for a method to prepare block and graft copolymers that are well defined and free of homopolymer. That method for alkyl monomers is the use of transition metal catalyst polymers. While claim 1 of Matjasewski doesn't specifically state that alkyl monomers are being used, those are the monomers that are being used in the

examples of the publication. There is no suggestion that the use of transition metal catalyst as initiators can be used in the preparation of polysiloxane block copolymers. The use of such transition metal catalyst for the preparation of polymers based on alkenes was the basis for the disclosure in Matyjaszewski.

Again, there is nothing Matyjaszewski which suggests that such transition metal catalysts would be appropriate for preparing polysiloxane block copolymers. Indeed, since the whole aim of the Matyjaszewski invention was to prepare block and graft copolymers based on alkenes having a low polydispersity index, Matyjaszewski can therefore be said not to make any suggestion at all for using the same transition metal catalyst to produce polysiloxane copolymers. Therefore, this rejection . . . is not proper and should be withdrawn."

We are unconvinced by appellants' above-mentioned arguments. That is, appellants have not demonstrated why Matyjaszewski's disclosure of alkyl monomers and why the preparation of polymers based on alkenes is relevant to the subject matter of appellants' claim 1.

Also, the examiner states, on page 4 of the Answer, that Matyjaszewski does teach to make a polysiloxane block copolymer by using macroinitiators in the presence of a transitional metal catalyst, and refers to page 38, lines 15-20 of Matyjaszewski, and to example 15 of Matyjaszewski. In support of the examiner's position, we note that Matyjaszewski discloses, at page 38, lines 15-20, "[e]xamples of novel block or graft copolymers produced by microinitiators in accordance with the

present invention include ... block copolymers containing a block moiety of polysiloxane." In view of this disclosure, we must agree with the examiner's position regarding Matyjaszewski, especially because appellants' arguments do not dispute this disclosure found in Matyjaszewski. The examiner's findings support the requisite that the prior art can be modified or combined to reject claims as prima facie obvious as long as one of ordinary skill in the art would have had a reasonable expectation of success. In re Merck Co. Inc., 800 F.2d 1091, 1097, 231 USPQ 375, 379 (Fed. Cir. 1986). See also Amgen, Inc. v. Chugai Pharm. Co., 927 F.2d 1200, 1209, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991). Absent evidence/arguments to the contrary, as in the present case, we affirm the rejection of claim 1. As set forth above, claims 3 and 4 fall together with claim 1.

## II. The Rejection of claim 5

On pages 14 and 15 of the Brief, appellants' position essentially is that because Tsubakihara does not disclose making polysiloxane polymers through the use of a transitional metal catalyst, this reference does not cure the asserted deficiencies of Kumar in view of Matyjaszewski.

As discussed, supra, it is our opinion that the combination of Kumar in view of Matyjaszewski does suggest making polysiloxane polymers through the use of a transitional metal catalyst. Appellants do not dispute that Tsubakihara teach the desirability of using a block copolymer in hair cosmetics. Therefore, we find no error in the examiner's rejection of claim 5. Accordingly, we affirm the rejection of claim 5. As set forth above, claim 6 falls together with claim 5.

### III. Conclusion

The rejection of claims 1, 3 and 4 under 35 U.S.C. § 103(a) as being obvious over of Kumar in view of Matyjaszewski is affirmed.

The rejection of claims 5 and 6 under 35 U.S.C. § 103(a) as being obvious of Kumar in view of Matyjaszewski and Tsubakihara is affirmed.

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Application No. 09/575,903

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

**AFFIRMED**

DONALD E. ADAMS	)
Administrative Patent Judge	)
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	) BOARD OF PATENT
	) APPEALS AND
BEVERLY A. PAWLIKOWSKI	) INTERFERENCES
Administrative Patent Judge	)
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LORA M. GREEN	)
Administrative Patent Judge	)

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